

READER REFLECTIONS

In this section, we will share your points of view on teaching mathematics and your responses to anything contained in this journal. We appreciate your interest and value the views of those who write.

The following article was submitted in response to "British Math Fails to Add Up" by Nicholas Pyke and "Why We Lag Behind in Math" by David Burghes (Volume 34, Number 2, September 1997):

British Math Versus Continental Math or Why the Metric System Offers Basic Algorithms More Efficient than the Imperial System

Ivan Isop and David Borgstrom

Canada has moved to the SI system of measurement. The auto manufacturing industry (Ford, Chrysler and General Motors) uses SI worldwide. Boeing manufactures its 767 airplane in metric units of measurement. But the workers schooled in North America do not have an understanding of what can be called metric thinking.

When Canada adopted the SI system, the algorithms of doing the basic arithmetic operations were omitted. They were not even thought about because they are not recognized for their fundamental importance. And they are not recognized for their efficiency. After all, don't we do subtraction the way everyone does it? No.

The imperial system, with its 16 ounces to a pound and 12 inches to a foot, has caused the method of borrowing and regrouping to do subtraction. In SI, based on 10, the algorithm for subtraction does not use regrouping. Subtraction is done like one does addition. In metric thinking, subtraction is done by adding to the number. The reader may recognize this adding to the number as a way of checking subtraction, but not as the fundamental method of doing subtraction.

By now the reader may be thinking, "Does it really matter?" There is evidence that British students are not doing as well as their Continental cousins because they do not have that all-important feel for numbers. The understanding of the basic operations of number in arithmetic is enhanced by metric

thinking. The Czech Republic has consistently placed high in mathematical understanding on many international tests (Third International Mathematics and Science Study [TIMSS]).

The SI system, when fully adopted, offers connections between the length, mass and density measurement and, when coupled with slick, fast and efficient algorithms, has advantages well beyond anything we are now doing. The curriculum, teachers and the education system in Alberta can and must be moved to employ the full advantage of SI and metric thinking.

Be assured that the SI and metric thinking offer students an understanding of mathematics, how to simplify the computations that everyone uses time after time, how to have the connections to advanced thinking skills and how to process information in the mind's eye. The algorithms of metric thinking for multiplication, division and square rooting are superior, efficient and fast. All are important to Canada in the handling of resources, for we are a small country in population and must be doubly efficient. And, of course, industry will be very interested in employees possessing such thinking and computational abilities.

Ivan Isop has a paper demonstrating in detail the algorithms of metric thinking and would be pleased to share it with interested readers. His address is 9228 91 Street NW, Edmonton T6C 3N8; phone 469-9848.